

embodiment. This embodiment will explain a method of recording part of image pickup data as white sheet data or color balance data of a picked-up image in a data area of each image file when recording each pickup image on a recording medium, and using these data for MWB adjustment and color balance adjustment.

Referring to Fig. 3, an image pickup data input terminal 301 receives image pickup data obtained by an image pickup element having four, R, G1, G2, and B, color filters and converted into digital data.

This image pickup data is processed in a main image processing unit 302 for various image processing operations for recording with high image quality as in a digital image recording apparatus such as a general digital camera. The processed image pickup data is then encoded by an encoding processing unit 303 in accordance with a JPEG recording format.

On the other hand, part of the image pickup data, e.g., pixel data of 64 pixels in the central portion of the two-dimensional image space of one picture is extracted by an image data extraction unit 304, as shown in Fig. 9. An averaging processing unit 305 generates an average value of 16-pixel data of each color component signal of R, G1, G2, or B.

An image filing unit 306 forms an image file into which the resultant average value is converted together with encoded image data. The average value is

allocated to a predetermined area attached to an image file. A medium-recording unit 307 records the average value together with the original encoded image data as one image file on a recording medium.

5 The above operation is always done in all image pickup operations including normal image pickup. Each of white sheet data image pickup and color balance image pickup is done as one of the general image pickup operations. Since the white sheet data and color
10 balance data are obtained by extracting an image of 64 pixels in the central portion of the picture, any image except white sheet data and color balance data may be picked up around the 64-pixel area.

 A technique for setting in the image pickup
15 apparatus an MWB control value used for MWB adjustment and a color balance control value used for color balance adjustment will be described below. A medium on which an image file is recorded by the above recording scheme is loaded in the image pickup
20 apparatus, and image file reproduction is done using a user interface shown in Fig. 8.

 A PLAY button 803 shown in Fig. 8 is depressed to reproduce and display image data serving as an actual reproduction target (image pickup data) of the image
25 file on a reproduction monitor 801.

 The operator sequentially switches a plurality of files with file selection switches 804 and 805 while

viewing the pickup image displayed on the reproduction
motor 801 and a white image or color adjustment image
810 superposed on the pickup image. The operator then
selects one image file to be used for white balance
5 adjustment.

When one image file is reproduced and monitored, a
selection data reproduction unit 310 reads out and
reproduces the white sheet data from the attached data
area.

10 File selection is done as follows. While a file
in which white balance data used for white balance
adjustment is written is being displayed on the
monitor, a WHITE switch 808 is depressed to cause a
CB/WB adjustment image selection unit (first selection
15 means) 309 to select a desired file.

As indicated by the monitor 801 shown in Fig. 8,
if the image pickup date and place are written in a
location except a white balance data recording area 802
when intentionally picking up an image used for white
20 balance adjustment, operation for the white sheet data
can be further facilitated. This also applies to color
balance adjustment to be described later.

The attached data of the image file being
reproduced is selected by the CB/WB adjustment image
25 selection unit 309 in accordance with the file
selection signal indicating that a file is selected.
Upon depressing the White switch 808, a switch 321 is

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